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1. (Amended) A method [for] of transmitting data [transmission] in a radio communications system [with CDMA subscriber separation and variable spread factors, in which], the method comprising:

[-] <u>transmitting</u> signals from at least two data streams [and with] <u>having</u> data symbols spread by [means of] spread codes [(c) are transmitted], the signals being transmitted at the same time in one channel, wherein [in which case] different spread factors <u>are</u> [(SF) which are less than or equal to a maximum spread factor (SEInax) can be] used for the signals[,];

[- at the receiving end, the signals are detected with the aid of the spread codes (c), characterized - in that, at the receiving end, a number of forming a virtual spread code [codes (cv) which are each related only to individual symbols or symbol groups in the symbol are formed] for a symbol in one of the signals having a spread factor [(SF)] which is less than a [the] maximum spread factor [(SFmax),] code;

[- the detection of this signal is carried out] <u>detecting the one of the signals</u> using the virtual spread [codes (cv),]; and

[-] <u>arranging</u> [the] detection results[, with the virtual spread codes (cv), are arranged in a row] to form <u>a</u> [the receiving-end] data stream [of] <u>that corresponds to</u> the <u>one of the signals</u> [signal with the lower spread factor].

2. (Amended) The method of [as claimed in] claim 1, further comprising changing the virtual [in which a] spread code for a new symbol in one of the signals [(c) with a spread factor (SF) which is less than the maximum spread factor (Sfmax) is changed from symbol to symbol or from symbol group to symbol group].

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3. (Amended) The method of [as claimed in] claim 2, wherein changing [in which the change in] the virtual spread code comprises [(c) corresponds to the] splitting the [into] virtual spread code [codes (cv)].

4. (Amended) The method of [as claimed in] claim 2, wherein a [or 3, in which the] length of the virtual spread code [codes (cv)] corresponds to a [the symbol] length of a symbol having the maximum spread factor.

5. (Amended) The method [as claimed in one of the preceding claims, in which] of claim 1, wherein detecting is performed using a detection device [(DE) is] designed for a number of channels that [which] corresponds to a [the] number of channels associated with the maximum spread factor [(SFmax), with detection being carried out on the basis of virtual spread codes for processing of signals with different spread factors].

- 6. (Amended) The method of [as claimed in] claim 5, wherein [in which] the detection device performs detecting by eliminating [(DE) carries out joint detection with elimination of] at least one interference signal in the signals.
- 7. (Amended) The method [as claimed in one of the preceding claims, in which] of claim 1, wherein:
 - [-] the data symbols are at least partially superimposed to form a received signal[,];

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[-] the received signal is sampled and [is] passed to a reception matrix [(e),];

[-] a system matrix contains [(A) is occupied with] values[, which] that are related to a signal-specific channel impulse responses, wherein [on the basis of a band structure, with] (i) adjacent positions in the system matrix contain [(A) being occupied in such a manner that the] values of [the] different signals [alternate and the occupied], (ii) positions in the system matrix are aligned to correspond [corresponding] to [the] superimpositions of [between] the data symbols, [with] and (iii) correspondingly more adjacent positions in the system matrix are [being] provided for [the] signals with [the] lower spread [factor,] factors; and

[- linear] detection is performed [carried out] for [the] data symbols in the at least two data streams, using the received signal, by linking the system matrix [(e)] and the reception matrix [(e)].

8. (Amended) A receiving device for a radio communications system, comprising: [which has] at least one [associated] antenna [(AT)] for receiving [a received signal,] signals; and

[having] a channel estimator [(KS)] for determining signal-specific channel impulse responses of at least two received signals in simultaneously transmitted data streams having [with] data symbols spread by [means of] spread codes [(c),];

wherein [in which case] different spread codes are used [(SF), which are less than the maximum spread factor (SFmax), can be set] for the at least two received signals,